MAY 1 5 1997

# OSMIC WORKSHOP #5, 97.05.15

Tet
Shu
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Kei
(Yukihito had a bike accident)

Notes in this pen, 97.05.17

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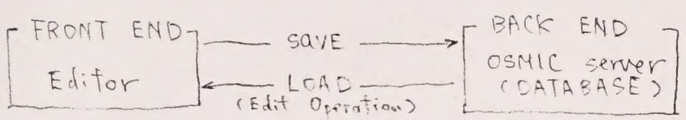
# THE SYSTEM DESIGN DIAGRAM : (written by kwindi - 13/05/1997)

Is the word "LOAD" adequate expression?

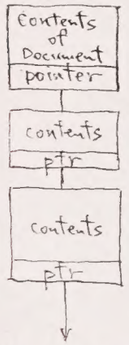



- Editor is where you create a document and BUILD A VIRTUAL DOCUMENT.
- OSMIC server is the storage system.
  - —[SAVE]—→ : The ~~saved document~~ new material is append to FROZEN DATA, which create a pointer (or fragment) as it arrives.
  - ←—[LOAD]— (Edit Operation) : You can load every part of FROZEN DATA into the editor when you specify (or ask for) A GIVEN PART OF A GIVEN VERSION AT A GIVEN TIME.

EDIT OPERATION

< FROZEN DATA >

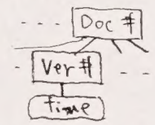
As stored:




Don't need

APPEND and READ only.

- A pointer is a fragment which consists of
  - Document Number
  - Version Number
  - Time.




Note: This would be the TUMBLER ADDRESS for the future.
(Further info about the tumbler address system, see the chapter 4 of "Literary Machines".)

——— How the edit operation works ———

Operation CODE
- INSERT
- TRANSCLUDE —→ "LINE" is coming later.
- DELETE
- REARRANGE



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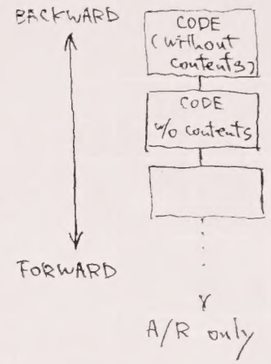
- OSMIC server has two types of storage :
  - FROZEN DATA (Primed.2)
  - Edit Operation List ALSO FROZEN

< Edit Operation List >




Note: We need to store such operation code so it can be used for
- FORWARD IN TIME
- BACKWARD IN TIME

| Edit Ops | Complement [BACKWARD IN TIME] |
|---|---|
| "INSERT" | ←→ Remove the part of the document from the pointer list. |
| "DELETE" | ←→ Insert |
| "REARRANGE" | ←→ Rearrange |
| ("TRANSCLUDE") | ←→ Remove from pointer list. |

Each CODE Info should look like this :

"INSERT" code

Document & Version Username

| |
|---|
| ~~Document~~ Number |
| Ops Number = Version Number |
| Time |
| "INSERT" (name of ops) |
| Position in virtual document → AT THIS POINT COULD SAY : text / audio (type ...) |
| Pointer to FROZEN DATA |

both

Note: CODE has not contents but a pointer to FROZEN DATA.
(are going to the tumbler address?)

"DELETE" code

| |
|---|
| Document Number |
| Ops Number = Version Number |
| Time |
| "DELETE" |
| Range < First - Last > |
| Position in virtual document |
| contents? |

↘ implies the position in virtual document

→ PROBLEM : How should we handle the contents?

the concrete code of "REARRANGE" and "TRANSCLUDE" is not clear so far.

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# Xanadu Theology

We don't say

"copy" → some data, NO SYSTEM AWARENESS

~~"Instance"~~

USUAL MEANING ~~AT USUALL?~~

"instance" → ~~copy K~~ instance knows its original, ORIGINAL DOESN'T KNOW INSTANCES

We say

COSMIC ORIGINAL
&
MANIFESTATION

All Santa Clauses
are the same Santa
& know what's happening
to each other

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ADDRESS TOPICS

SAME COSMIC
ORIGINAL
PRIMEDIA

=

different
~~phone~~
~~dot~~ network
~~address~~
addresses

=

=

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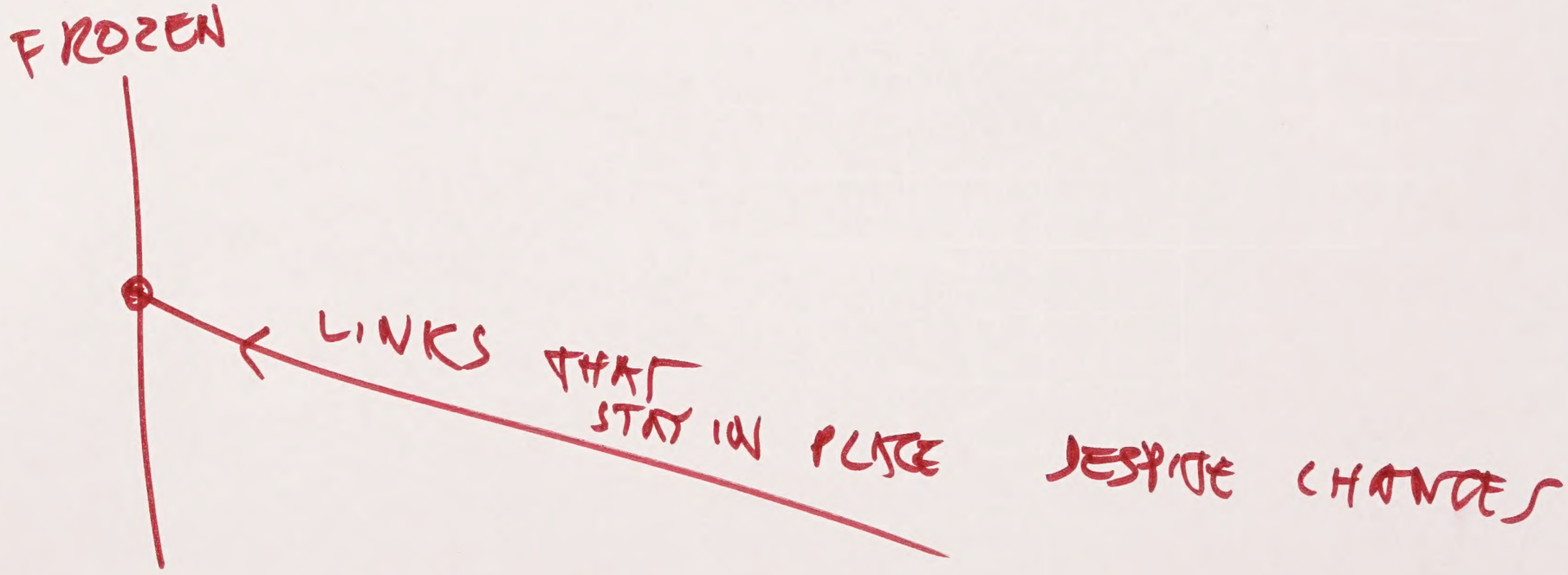
# RESOLUTION PROBLEM FOR MULTIPLE COPIES

## is a level of indirection:

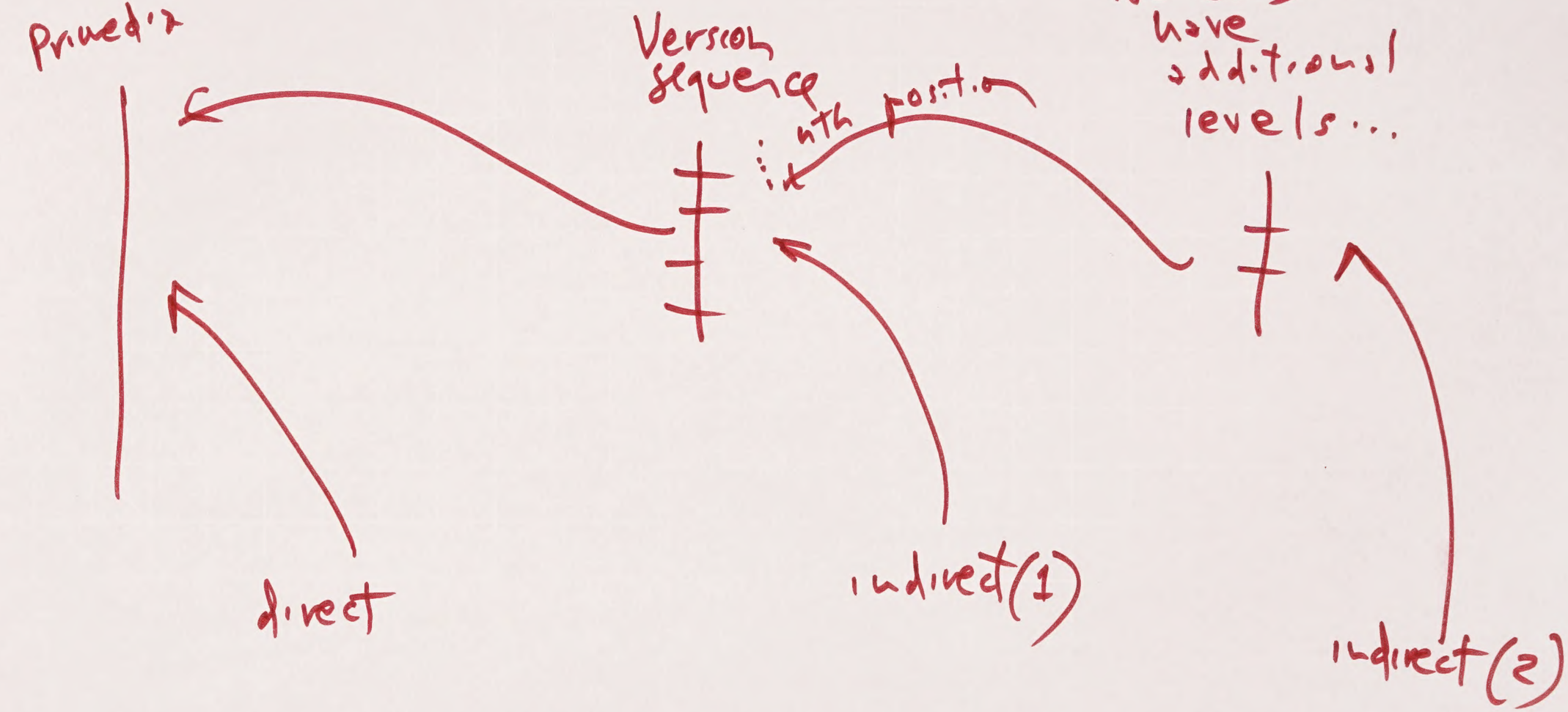
SYSTEM MUST KNOW THE IDENTITIES

THE POWER OF THE SYSTEM
COMES FROM THE INDIRECTION:

The media stay in one place
& retain their ~~powe~~ identity.



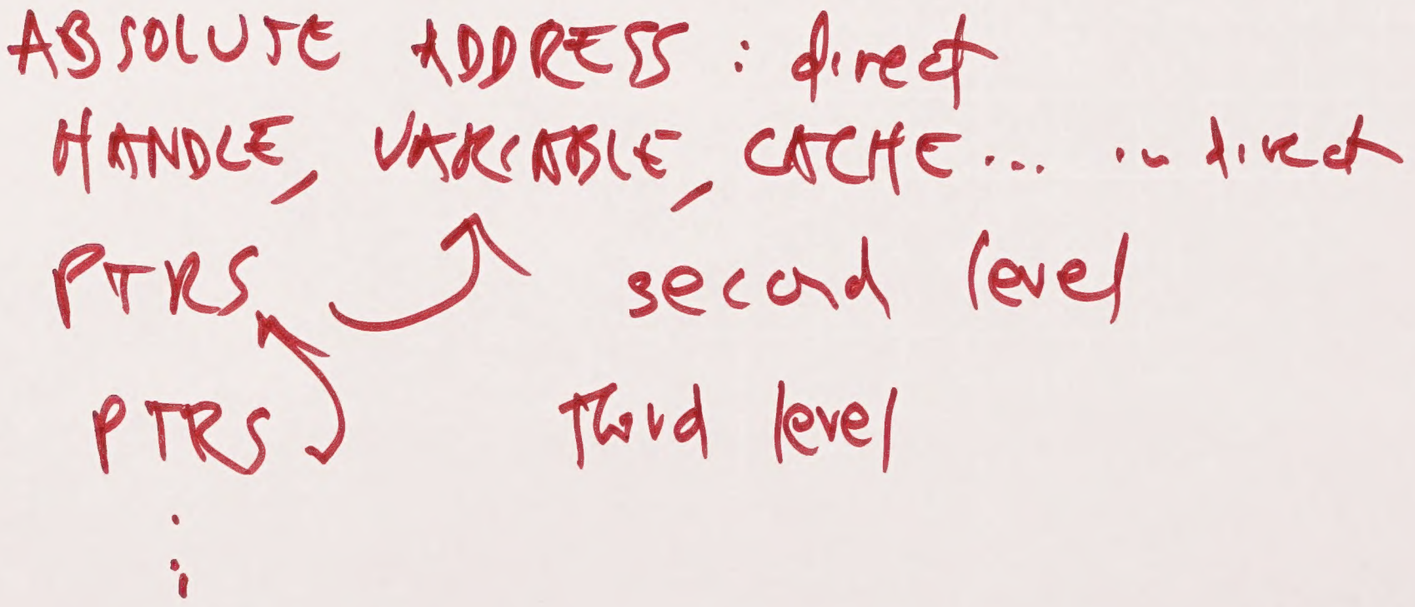
# LEVELS OF INDIRECTION IN OSMIC:




OKAY IF USEFUL.

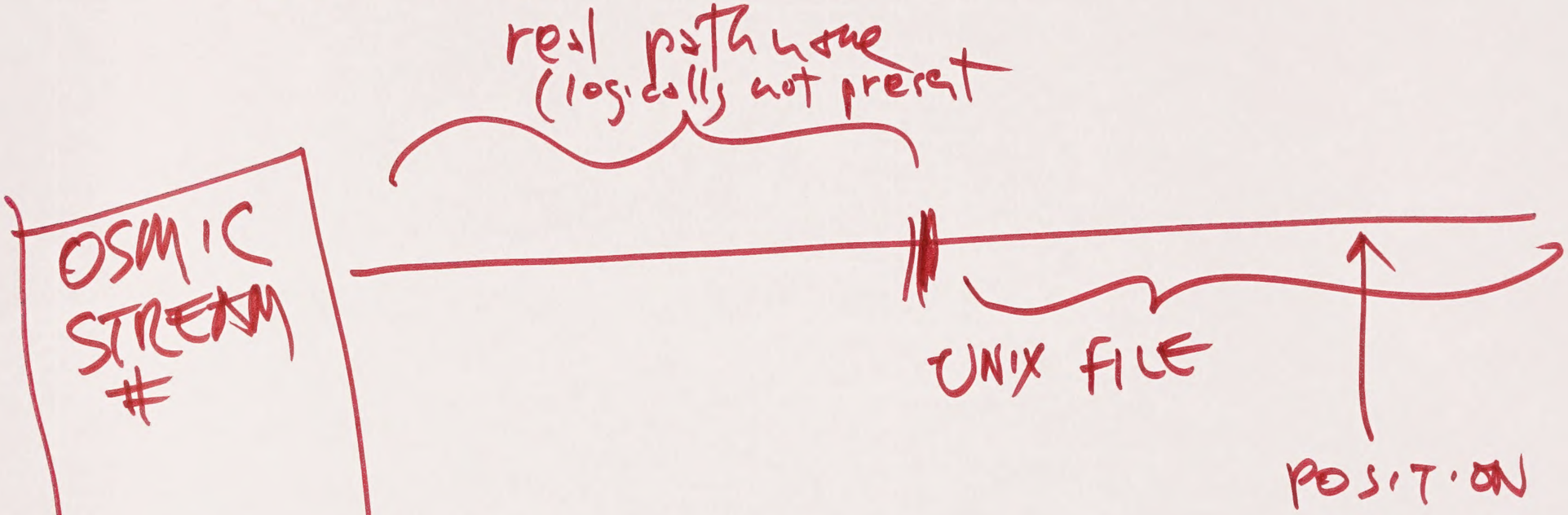
# LEVELS OF INDIRECTION

"Any problem in computer science
can be solved
by one more level of indirection."
— Alan J. Perlis



# PRIMEDIA

## ADDRESS COULD BE:




Virtual entity,
CONSTANT ACROSS NETWORK

TUMBLERS ARE SPECIAL CASE

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Ken'ichi suggests:

☆ INSTALLING TUMBLERS IN DNS WOULD NOT BE SO DIFFICULT

| He likes tumblers!

| Wow! In the DNS ?
| I thought it only accepted IP addrs.
| Would sysadmins have to cooperate?

# DUALITY

Every element has 1 FROZEN ADDRESS

One or more CURRENT ADDRESSES

(if present)

Exactly equivalent

SAME ELEMENT CAN BE IN SAME VERSION ANY NO. OF TIMES

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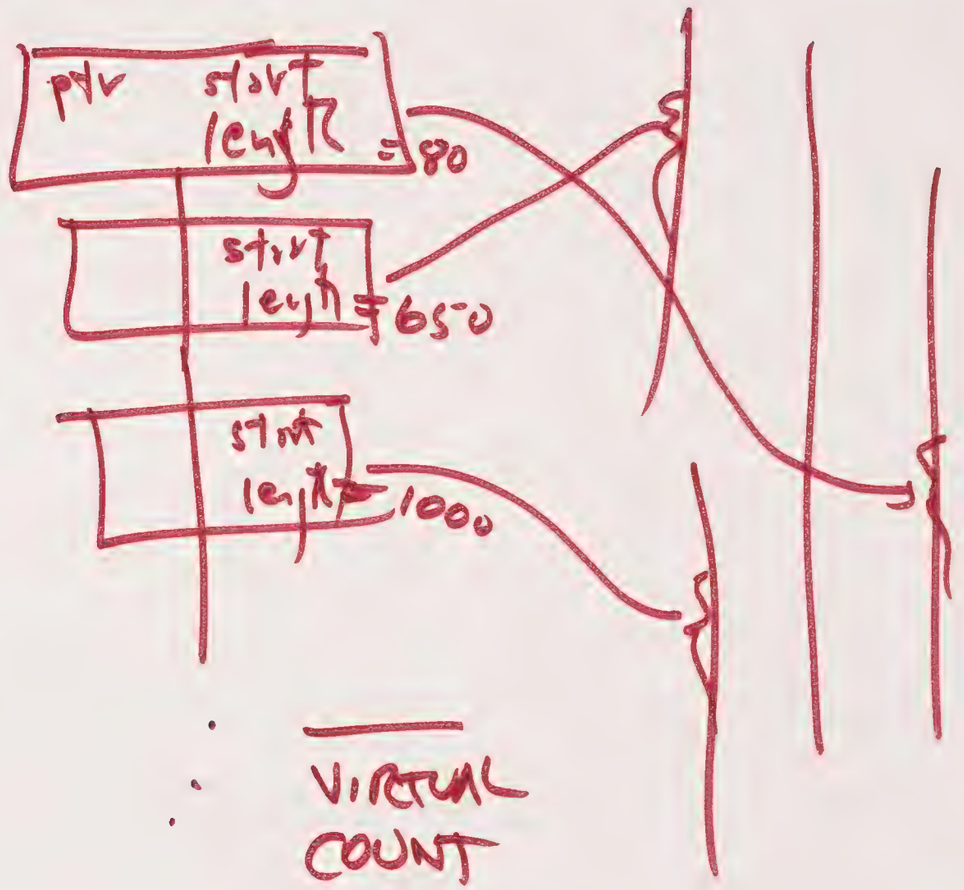
# VERSIONS and NAMING THEM

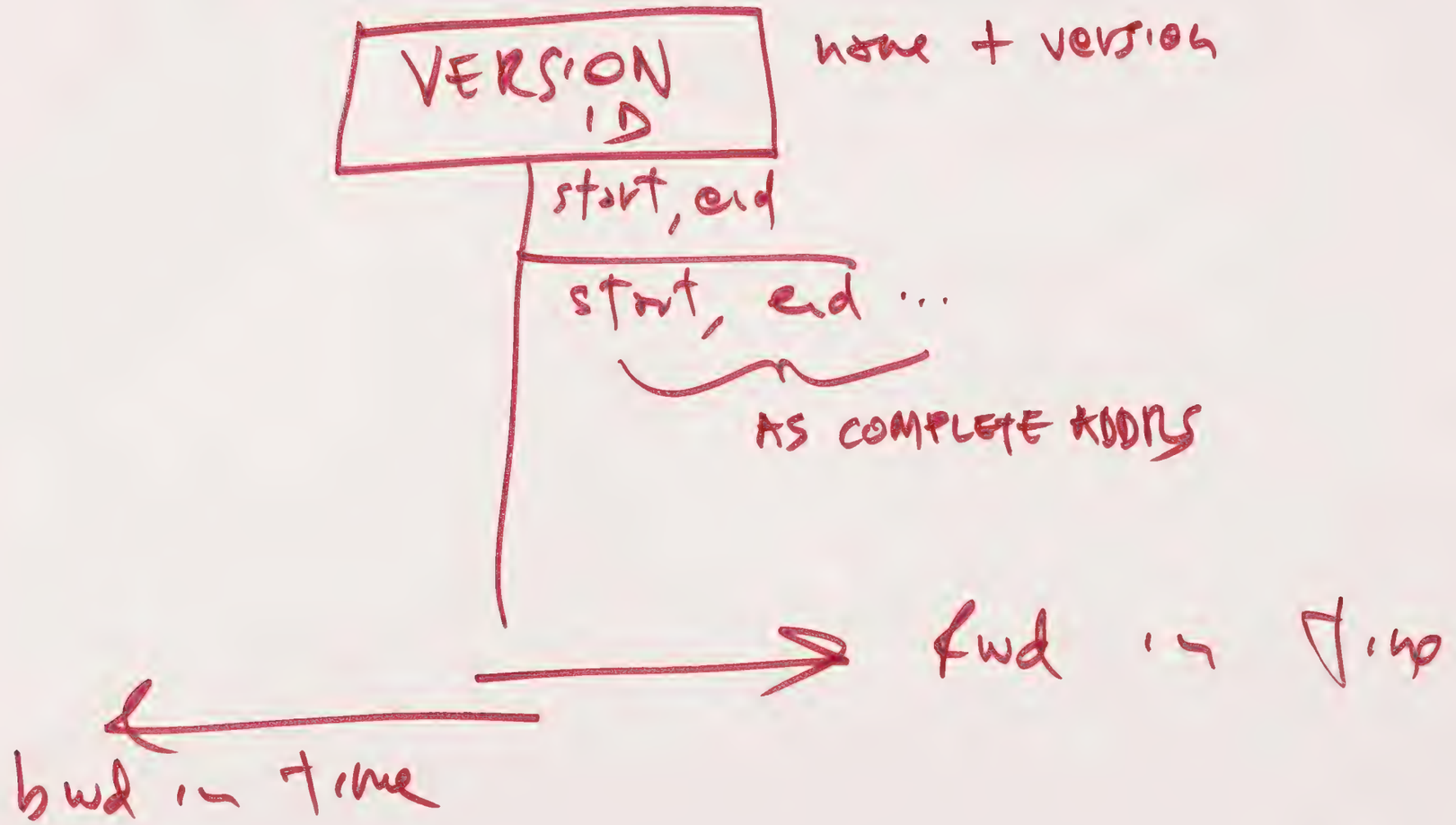
VERSION ⟷ Implemented by MECHANISM = Frozen Primitives

VIRTUAL VERSION seen & thought about by user




VIRTUAL COUNT in current vers.

# VIRTUAL VERSION (VV)



The word "document"
has NO IMPLEMENTATION
MEANING.

Not quite true.

DOCNAME represents a collection of versions,-
points to → OPLIST
→ Saved versions if any

# USER NAMING

The user may name any version he likes.

GOES TO A TABLE.

IF THE USER CHOOSES TO RECOGNIZE
ONLY CERTAIN VERSIONS,
THAT DOESN'T CHANGE ANYTHING

Edit ops still must be enacted to move from one to the other.

(ELIMINATES 26-char restriction)

3^a72^ab368

not necessary, could just have

a ... z
ab ... az ... za ... zz
aaa ... aab ... azz ... baa ... bbb ... etc.

This means multiple operations
can be considered as one operation.

(Other reasons to do dif:

USER MIGHT INSIST
~~THAT~~ BOTH A & B occur
SIMULTANEOUSLY
IN RE-ENACTMENT.)

~~SO~~ LATER: we'll allow operation sequences
to be treated as one operation.)

IF USER DISCARDS OF LIST,
he letter SAVE VERSION LIST.

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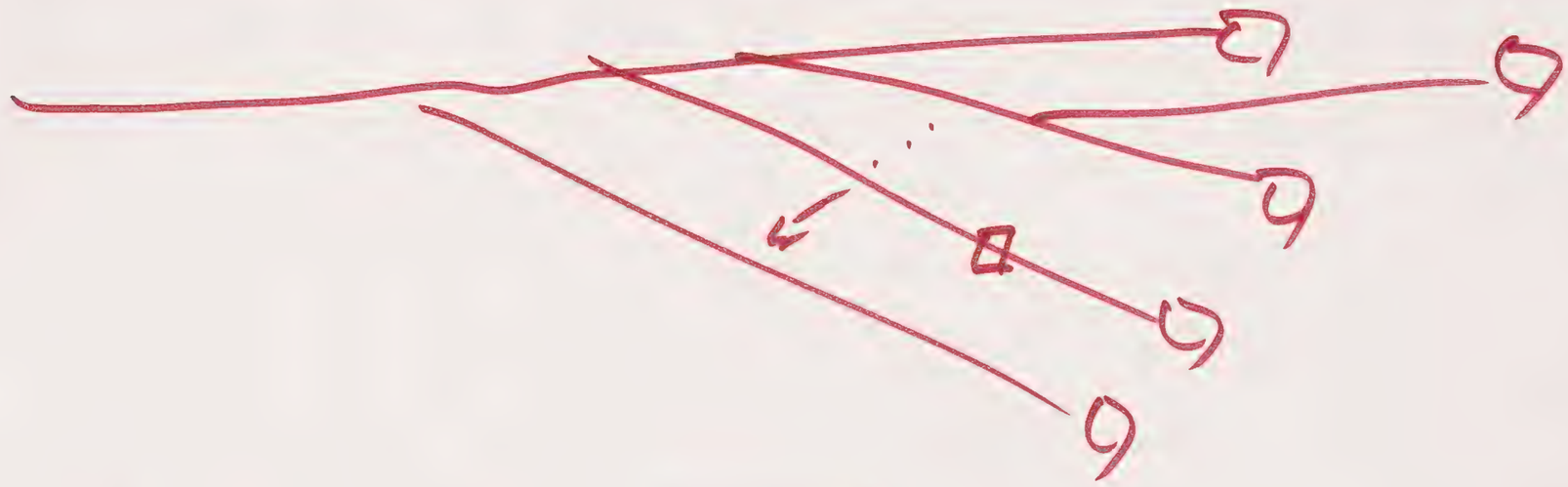
# BRANCHING VERSIONS: even leaf can be considered current



Might want:

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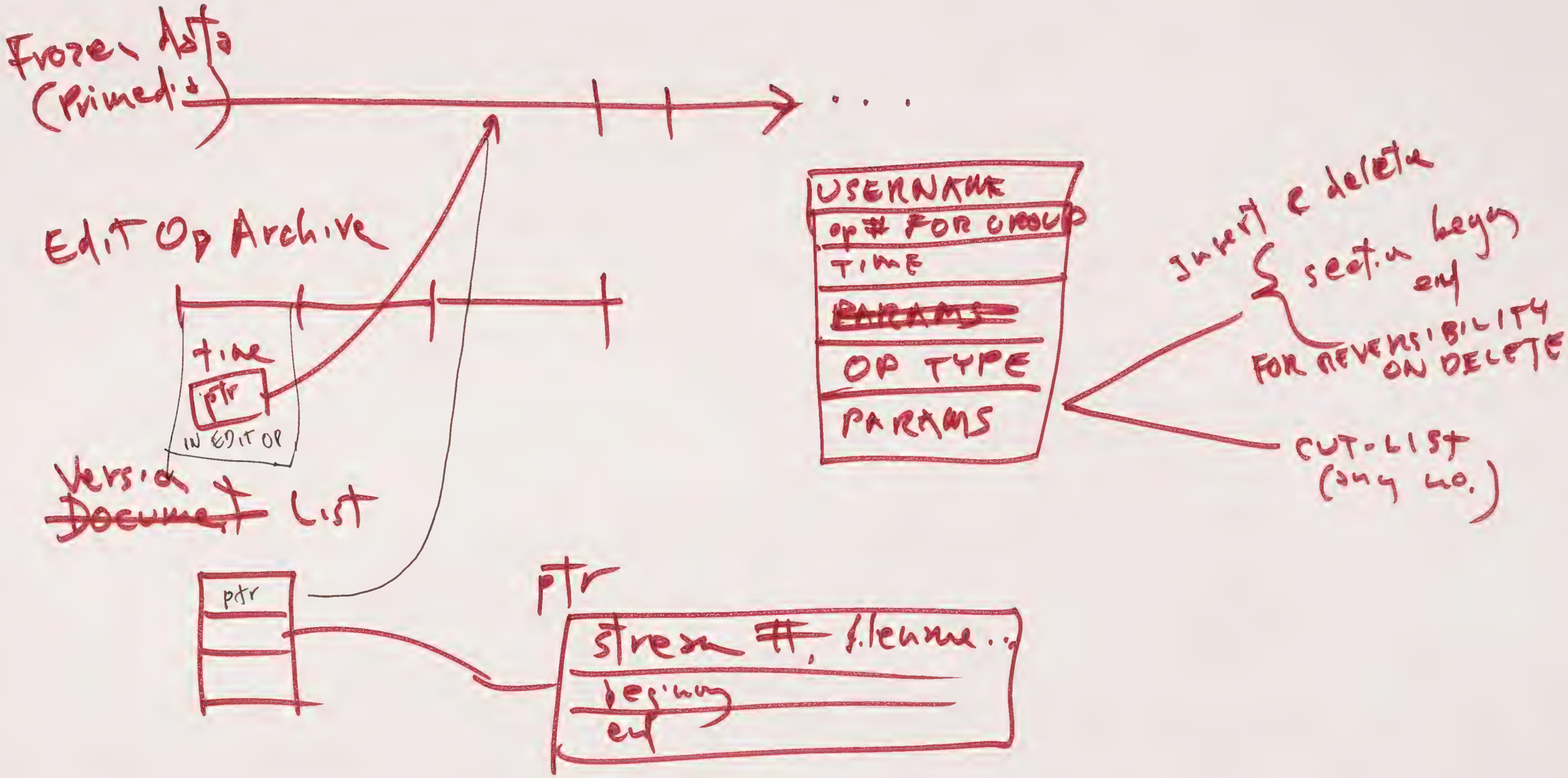
# THE EDIT OPS

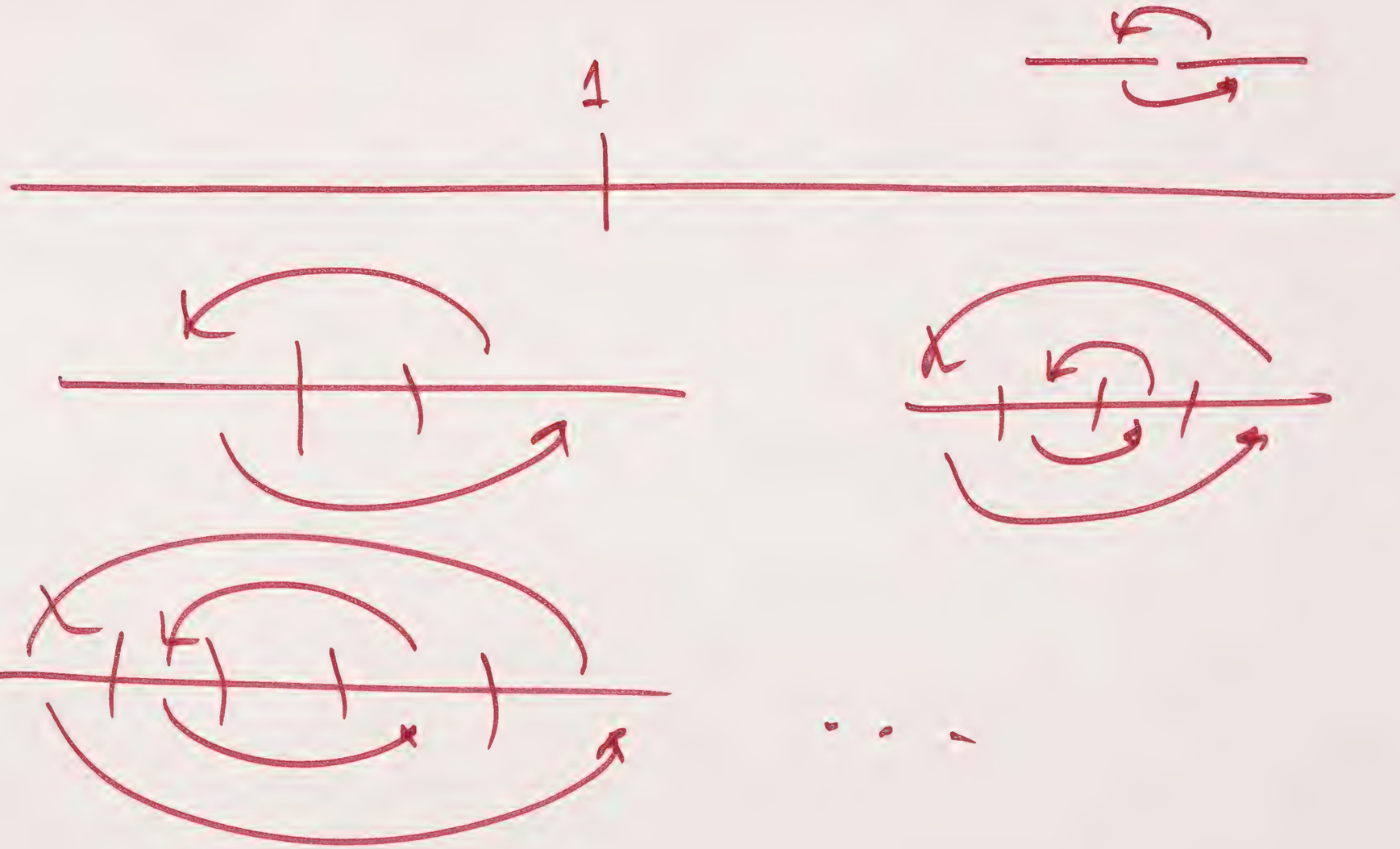
# HOW DEFINE ADDRS IN STORED EDIT OP?

Poss. b.l.t ① : VIRTUAL (current)

Poss. b.l.t ② : Frozen


Frozen Data (Primed)
Edit Op Archive
time
ptr
IN EDIT OP
Version ~~Document~~ List
ptr
USERNAME
op# FOR GROUP
TIME
~~PARAMS~~
OP TYPE
PARAMS
insert & delete
secure keys only
FOR REVERSIBILITY ON DELETE
CUT-LIST (only 40.)
ptr
stream #, stream...
beginning
end

REARRANGE is defined for arb. no. cuts



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FILENAME (persistent OSMIC filename)

FROZEN DATA

Text:

char
char
char

NOTHING ELSE

OP LIST .ops

filename

docname or group work name or pool name

OP CODE

OP CODE

VIRTUAL VERSION LIST ("TEMPORARY") (usually)

filename

docname.version

start, length

start, length

INSERT

OP LIST

INSERT

Op code

VIRT LOC (ptr to insertion)

PTR TO NEW RECORD

ptr to (frozen data)

Data Duality

Virtual Version

Frozen Data

previous pointer is split (possibly not necessary)

3 ptr ptr to list

2 pointer overlay

Passes a string version 1

1

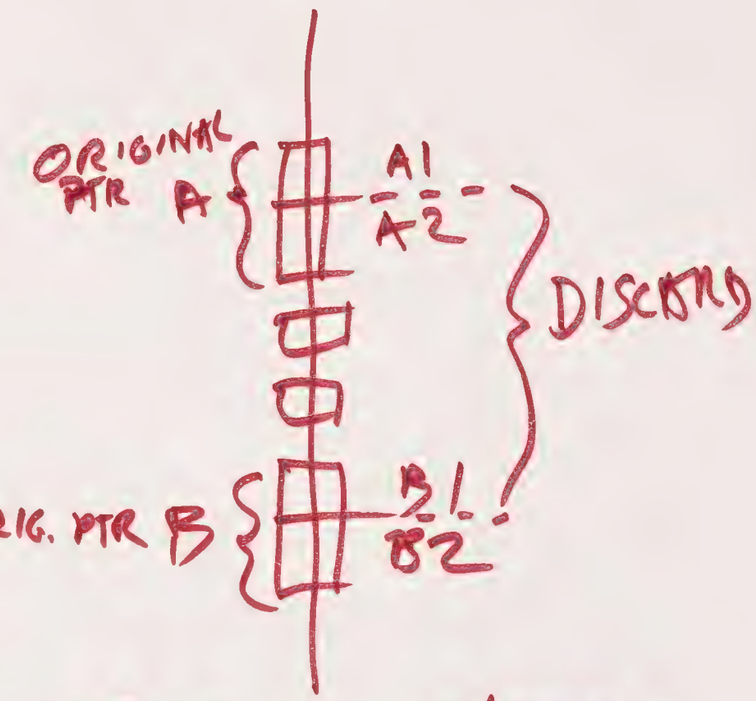
EXACT SEQ DOESN'T MATTER.

OP ENDS WITH USER CHANGING CURSOR POSITION.

# DELETE (some op code as "insert" but diff name)

OP LIST

VV




SPLIT 2 or fewer pointers

discard ptrs from A2 to B1

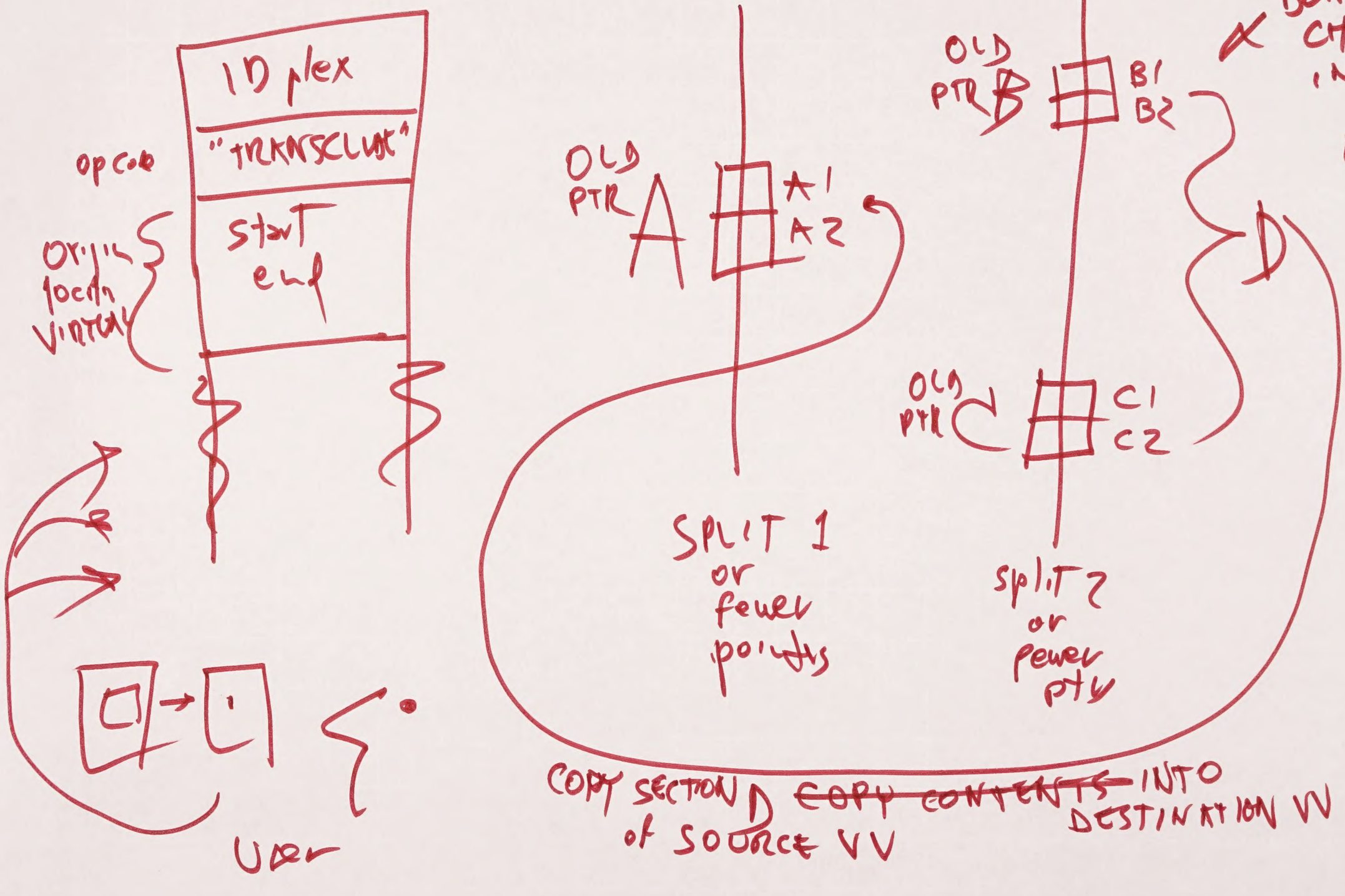
Fr Data

(nothing happens)

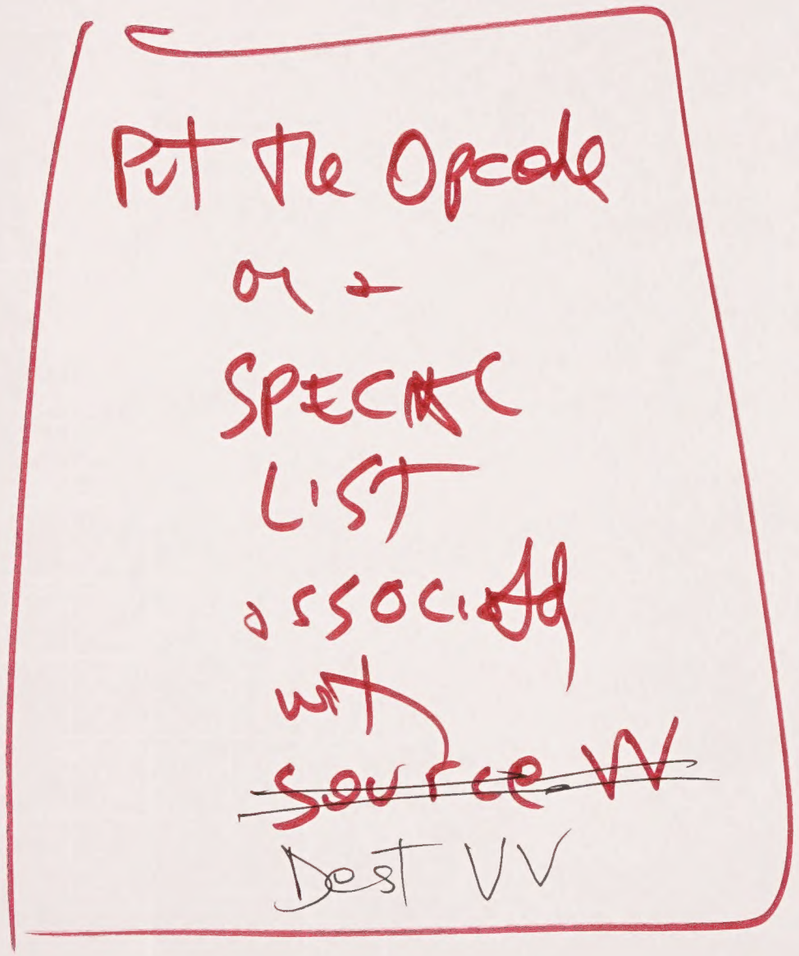
# TRANSCLUDE

DESTINATION VV

SOURCE VV



# LIVE TRANSCLUSION




DEST VV

SOURCE VV

every change is noticed

Kei points out XsT

IF WE NAME THE ~~W~~ VV POINTERS,
LIVE TRANSCLUSION IS EASIER.

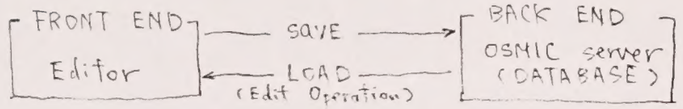
T. (Doesn't sit well with usual Xanadu model.)

(Kei's notes follow)

Ø

# THE SYSTEM DESIGN DIAGRAM : (written by kenichi. 13/05/1997)

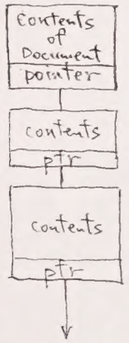
Is the word "LOAD" adequate expression?




- Editor is where you create a document and BUILD A VIRTUAL DOCUMENT.
- OSMIC server is the storage system.
  - —[SAVE]—→ : The saved document is append to FROZEN DATA, which create a pointer (or fragment) as it arrives.
  - ←—[LOAD]— (Edit Operation) : You can load every part of FROZEN DATA into the editor when you specify (or ask for) A GIVEN PART OF A GIVEN VERSION AT A GIVEN TIME.

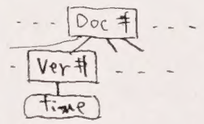
EDIT OPERATION

< FROZEN DATA >




APPEND and READ only.

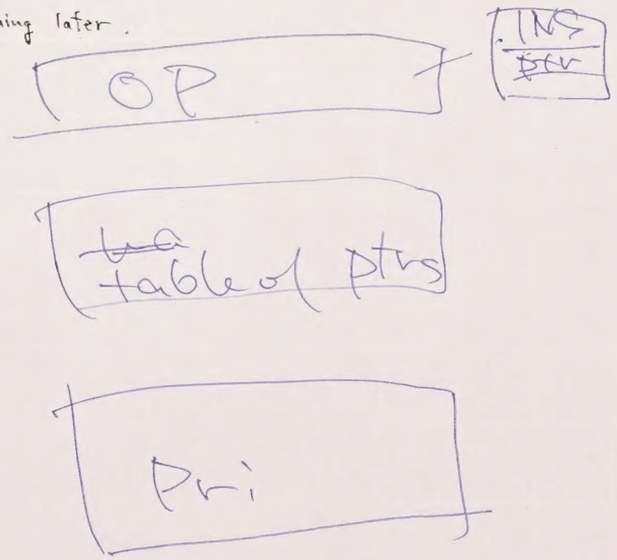
- A pointer is a fragment which consists of
  - Document Number
  - Version Number
  - Time




Note: This would be the TUMBLER ADDRESS for the future.
(Further info about the tumbler address system, see the chapter 4 of "Literary Machines".)

——— How the edit operation works ———

Operation CODE
- INSERT
- TRANSCLUDE —→ "LINK" is coming later.
- DELETE
- REARRANGE



- OSMIC server has two types of storage :
  - FROZEN DATA
  - Edit Operation List

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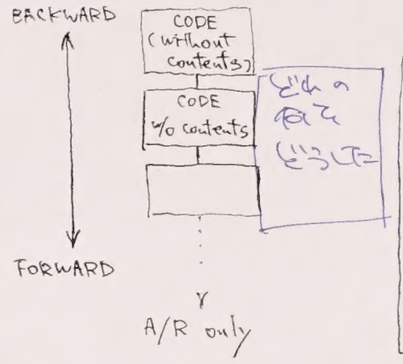
< Edit Operation List > Note: We need to store such operation code so it can be used for
- FORWARD IN TIME
- BACKWARD IN TIME




| Edit Ops | Complement [BACKWARD IN TIME] |
|---|---|
| "INSERT" | ←→ Remove the part of the document from the pointer list. |
| "DELETE" | ←→ Insert |
| "REARRANGE" | ←→ Rearrange |
| ("TRANSCLUDE") | ←→ Remove from pointer list. |

Each CODE Info should look like this :

"INSERT" code

| |
|---|
| Document Number |
| Ops Number = Version Number |
| Time |
| "INSERT" (name of ops) |
| Position in virtual document |
| Pointer to FROZEN DATA |

"DELETE" code

| |
|---|
| Document Number |
| Ops Number = Version Number |
| Time |
| "DELETE" |
| Range < First - Last > |
| Position in virtual document |
| contents? |

→ PROBLEM : How should we handle the contents?

Note: CODE has not contents but a pointer to FROZEN DATA.

The concrete code of "REARRANGE" and "TRANSCLUDE" is not clear so far.